

IN THE CLAIMS:**Listing of Claims:**

- 1 1. (original) A direction-finding method comprising the steps of:
 - 2 establishing a cross-over position point;
 - 3 relocating a receiver to a new receiver spacial location;
 - 4 said receiver at said new receiver position receiving a transmission from a
 - 5 transmitter at a transmitter position;
 - 6 determining a real-time line of bearing from said receiver to said transmitter;
 - 7 generating a connecting vector from said real-time line of bearing to said cross-
 - 8 over position point; and
 - 9 identifying a real-time position of said transmitter along said connecting vector.
- 1 2. (original) The method of Claim 1, wherein said identifying comprises identifying a
- 2 best guess transmitter position responsive to said real-time position of said transmitter.
- 1 3. (original) The method of Claim 2, further comprising the steps of:
 - 2 again relocating said receiver to a new receiver spacial location;
 - 3 said receiver at said new receiver position receiving a transmission from said
 - 4 transmitter at a transmitter position;
 - 5 determining another said real-time line of bearing from said receiver to said
 - 6 transmitter;
 - 7 generating a said connecting vector from said last real-time line of bearing to said
 - 8 best guess transmitter position; and
 - 9 identifying said best guess position of said transmitter along said connecting
 - 10 vector.

1 4. (original) The method of Claim 3, wherein:

2 said determining step further comprises determining a quality factor for said real-
3 time line of bearing; and

4 said identifying step further comprises assigning a probability factor to said real-
5 time position of said transmitter responsive to said quality factor.

1 5. (original) The method of Claim 3, further comprising a repeating step to repeat said
2 relocating, receiving, determining, generating and identifying steps until said probability
3 factor exceeds a predetermined threshold value.

1 6. (original) The method of Claim 3, further comprising a repeating step to repeat said
2 relocating, receiving, determining, generating and identifying steps until a user terminates
3 said direction finding method.

1 7. (original) The method of Claim 3, further comprising a repeating step to repeat said
2 relocating, receiving, determining, generating and identifying steps until said probability
3 factor meets a user-defined threshold value.

1 8. (original) A direction-finding method executed by a portable DF set comprising a
2 receiver and a programmable computing system comprising a processor, an input device,
3 an output device and a storage medium, the method comprising the steps of:

4 establishing a cross-over position point representing a position of a transmitter
5 and outputting said point at said output device;

6 moving said DF set to a new DF set position;

7 receiving at said DF set in said new DF set position, a transmission from said
8 transmitter;

9 determining, via said programmable computer, a real-time line of bearing from
10 said DF set to said transmitter responsive to said transmission;

11 generating, via said programmable computer, a connecting vector from said real-
12 time line of bearing; and

13 determining a real-time transmitter position along said connecting vector and
14 outputting said position at said output device.

1 9. (original) The method of Claim 8, wherein said identifying comprises identifying a
2 best guess transmitter position responsive to said real-time position of said transmitter.

1 10. (original) The method of Claim 9, further comprising the steps of:

2 again relocating said receiver to a new receiver spacial location;

3 said receiver at said new receiver position receiving a transmission from said
4 transmitter at a transmitter position;

5 determining another said real-time line of bearing from said receiver to said
6 transmitter;

7 generating a said connecting vector from said last real-time line of bearing to said
8 best guess transmitter position; and

9 identifying said best guess position of said transmitter along said connecting
10 vector.

1 11. (original) The method of Claim 10, wherein:

2 said determining step further comprises determining a quality factor for said real-
3 time line of bearing; and

4 said identifying step further comprises assigning a probability factor to said real-
5 time position of said transmitter responsive to said quality factor.

1 12. (original) The method of Claim 10, further comprising a repeating step to repeat
2 said relocating, receiving, determining, generating and identifying steps until said
3 probability factor exceeds a predetermined threshold value.

1 13. (original) The method of Claim 10, further comprising a repeating step to repeat
2 said relocating, receiving, determining, generating and identifying steps until a user
3 terminates said direction finding method.

1 14. (original) The method of Claim 10, further comprising a repeating step to repeat
2 said relocating, receiving, determining, generating and identifying steps until said
3 probability factor meets a user-defined threshold value.

1 15. (currently amended) A real-time direction-finding system, comprising:

2 a transmitter transmitting wireless transmissions, said transmitter defining a
3 spacial location;

4 a DF set comprising a movable receiver for receiving said transmissions; and

5 a computing device for determining said ~~spacial~~ location of said transmitter
6 responsive to transmissions received by said movable receiver and not responsive to other
7 said receivers, wherein said computing device operatively:

8 generates a cross-over point, said cross-over point defined as the
9 intersection of a pair of sequential real-time lines of bearing from said DF set each line of
10 bearing corresponding to a wireless transmission from said transmitter received by said
11 DF set; and

12 estimates a future position of said transmitter in reference to said cross-
13 over point.

1 16. (currently amended) The system of Claim 15, wherein after generating said
2 crossover point, said computing device operatively:

3 ~~generates a cross-over point;~~

4 receives a transmission signal responsive to a transmission received by said DF
5 set after said DF set has been moved to a new spacial location;

6 determines a real-time line of bearing from said DF set to said transmitter
7 responsive to said transmission signal;

8 generates a connecting vector from said real-time line of bearing; and

- 9 determines a real-time transmitter position along said connecting vector and outputting
- 10 said position at said an output device associated with said computing device.